

BMW Group relies on HP Multi Jet Fusion technology for 3D printed keycaps

From time to time, the BMW Group brings to market, limited editions of its iconic MINI to give customers differentiated models, with special features and designs-including custom 3D keycaps-that drive additional value.



Data courtesy of BMW group

Paddy Hopkirk Edition, 3D printed keycap.



Data courtesy of BMW group

Brick Lane Edition

Introduction

HP partners with the BMW Group, helping the company mass produce customized car parts in its limited-edition MINIs. The BMW Group is the world's leading manufacturer of premium automobiles and motorcycles. It relies specifically on HP Multi Jet Fusion technology to enable design innovation-in line with its own creativity-and cost-effective production of functional, high-quality 3D printed keycaps.

Industry

Manufacturing

Objective

Use additive manufacturing to produce high quality keycaps in limited quantities and in a cost-effective manner

Technology | solution

HP Multi Jet Fusion technology (5210)

Sector

Automotive

Approach

Using HP 3D Printing and materials, the BMW Group can quickly and easily produce unique design elements that withstand daily handling

Material

HP 3D High Reusability PA 11

Challenge

The BMW Group was looking to create three unique MINIs—Paddy Hopkirk, Knightsbridge, and Brick Lane. Because these are limited editions, typically only a few thousand units are produced. That's why BMW Group required 3D printed car parts that weren't only cost-effective, but could enable fast time to market, and still meet the high-quality standards of a premium brand like MINI.



Data courtesy of BMW group

Paddy Hopkirk Edition, 3D printed keycap



Data courtesy of BMW group

Knightsbridge Edition, 3D printed keycap



Data courtesy of BMW group

Brick Lane Edition, 3D printed keycap



Data courtesy of BMW group

Paddy Hopkirk Edition

Solution

BMW Group has found, in HP Multi Jet Fusion technology, the 3D printing capabilities that not only enable the high-quality parts expected of the MINI brand, but allow the company to apply innovative designs that would not have been possible with traditional technologies like injection molding.

These 3D printed keycaps, for example, include unique details such as the MINI logo embedded in its profile or, in the case of the Brick Lane model, the phrase "MY MINI, MY RULES." Surface treatment technologies matching series parts quality requirements were also no problem on these 3D printed car parts.

All this was achieved with a fast time to market, and without the need for expensive manufacturing tooling.

The material BMW Group chose to use was HP 3D High Reusability PA 11, a polyamide that offers the necessary resistance in 3D printed car parts that are handled by users on a daily basis. It's also a material that contributes to sustainability initiatives, as it is 100% bio-based and recyclable.